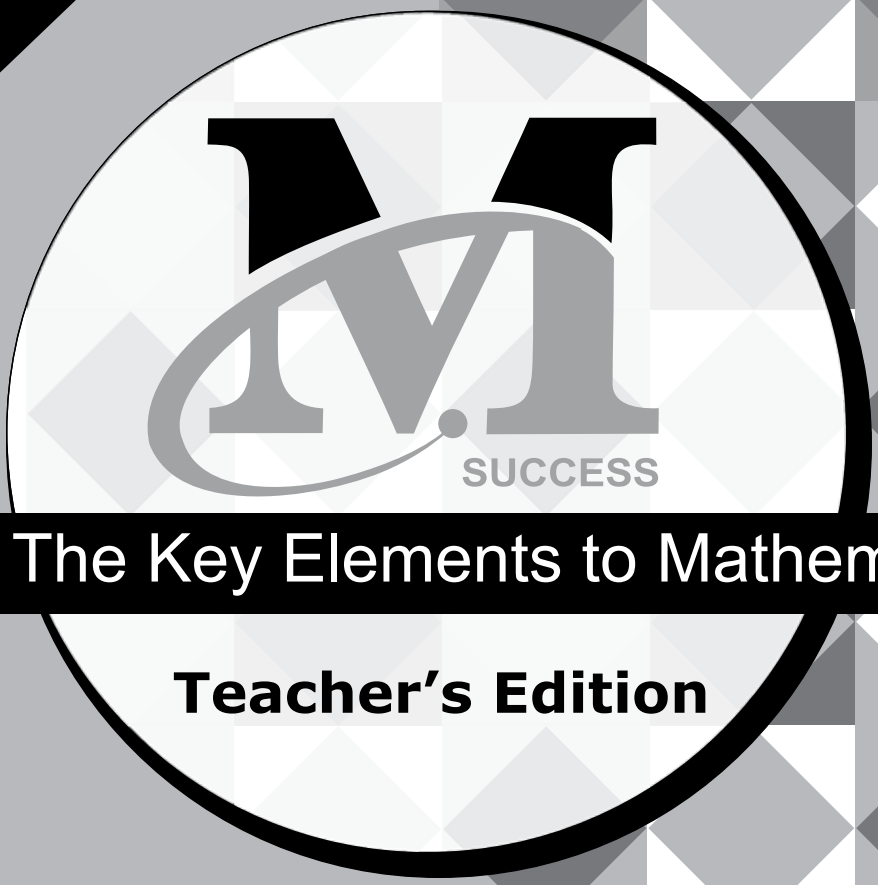
Grade
7



The Key Elements to Mathematics Success

Teacher's Edition

Authors:
Dr. Brian E. Enright
and
Lisa O. Schueren
Wendy S. Maldonado

Cover Design:
Lisa Greenleaf

National Training Network

Copyright © 2015 by National Training Network

All rights reserved. No part of the material protected by this copyright notice, except the Reproduction Pages contained within, may be reproduced or utilized in any form by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without written permission from National Training Network, Inc.
ISBN#978-1-57290-969-4

Table of Contents

Lessons

Teacher Note: When student pairs are using manipulatives to model concepts, they will need to use both partner books. Many times students need the concrete model to answer questions or bridge to the pictorial model on the following page.

	Lesson	Pages	Manipulatives	Word Wall Words	Foldable
1	SOLVE S and O	Teacher pages T1 – T19 Student pages S1 – S7	Paper for foldable (3 sheets of different colors) Stapler "S" and "O" posters Index cards ("N" and "U")	S – Study the Problem O – Organizer the Facts	SOLVE Foldable
2	SOLVE L	Teacher pages T20 – T39 Student pages S8 – S17	Foldable from Lesson 1 Index cards (operations words) "L" poster	L – Line up a Plan addition, subtraction, multiplication, division, equals, together, add, plus, and, incline, increase, deposit, sum, total, rises, grow, above, take away, difference, decline, minus, withdraw, write a check, subtract, fewer, decrease, left over, "How many?" "How much more?" below, all together, times, product, each, of, groups, items, per, double, triple, multiplied, quotient, per equal groups, cut into, divvy, split, is, same, balanced, equivalent, is equal to, divide, altogether	
3	SOLVE V and E	Teacher pages T40 – T59 Student pages S18 – S28	Foldable from Lesson 1 "V" and "E" posters	V – Verify Your Plan with Action E – Examine Your Results	
Ratios and Proportional Relationships					
4	Unit Rates	Teacher pages T60 – T79 Student pages S29 – S37 Activity page T934 Chain Reaction	Two-color counters (12 per student pair)	ratio, unit rate, quantity, comparison, unit	
5	Proportional Relationships	Teacher pages T80 – T101 Student pages S38 – S47 Activity page T935 Chain Reaction	Colored pencils (1 set per student pair)	equivalent fractions, proportion, cross products, ratio, proportional relationship, unit rate, means, extremes	
6	Identifying the Constant of Proportionality	Teacher pages T102 – T122 Student pages S48 – S56 Activity pages T936 – T939 Scavenger Hunt	Two-color counters (15 per student pair)	constant of proportionality, unit rate, ratio, dependent variable, independent variable, coefficient	

Table of Contents

Lessons

7	Representing Proportional Relationships with Equations	Teacher pages T123 – T146 Student pages S57 – S68 Activity pages T940 – T943 Scavenger Hunt	Two-color counters (12 per student pair)	constant of proportionality, unit rate, dependent variable, independent variable, coefficient	
8	Proportional Relationships in Graphs	Teacher pages T147 – T169 Student pages S69 – S81 Activity pages T944 – T947 Scavenger Hunt		unit rate, ordered pairs, dependent variable, independent variable, *x*-coordinate, *y*-coordinate	
9	Percents in Real Life Situations	Teacher pages T170 – T196 Student pages S82 – S96 Activity pages T948 – T951 Scavenger Hunt	Calculators	percent, tax, markup, markdown, gratuity, commission, $\frac{\text{part}}{\text{Whole}} = \frac{\%}{100}$	
10	Percent of Change	Teacher pages T197 – T218 Student pages S97 – S110 Activity pages T952 – T955 Chain Reaction	Calculators	percent of change, ratio, percent, increase, decrease, variable	
The Number System					
11	Add Integers	Teacher pages T219 – T247 Student pages S111 – S124 Activity pages T956 – T957 Think Maximum	Overhead unit tiles Red and yellow unit tiles for students (5 of each color) Paper for foldable (1 per student)	zero pairs, push together, yellow - positive, red - negative, additive inverse property, commutative property, sum, addition	Integer Foldable
12	Subtract Integers	Teacher pages T248 – T274 Student pages S125 – S137 Activity page T958 Chain Reaction	Overhead unit tiles Red and yellow unit tiles for students (5 of each color) Foldable from Lesson 11	subtraction, zero pairs, "take away", yellow-positive, red-negative, absolute value, difference	
13	Multiply Integers	Teacher pages T275 – T303 Student pages S138 – S150 Activity page T959 Scavenger Hunt	Overhead unit tiles Red and yellow unit tiles for students (12 of each color) Foldable from Lesson 11	gain/lose _____ groups of positive/negative _____items, zero pairs, create the possibility	

Table of Contents

Lessons

14	Divide Integers	Teacher pages T304 – T329 Student pages S151 – S163 Activity page T960 Mystery Square Integer Card Game T961 – T962	Overhead unit tiles Red and yellow unit tiles for students (6 of each color) Foldable from Lesson 11 Playing cards (1 deck for each 4 students)	If you divvy up _____ into _____ equal groups, what will be in each group? Splitting up _____ items into groups of _____, how many groups can you make?	
15	Real World Application with Rational Numbers	Teacher pages T330 – T360 Student pages S164 – S184 Activity pages T963 – T966 Scavenger Hunt	calculator	terminating decimal, repeating decimal, rational numbers	
Expressions and Equations					
16	Properties of Operations with Expressions	Teacher pages T361 – T390 Student pages S185 – S198 Activity page T967 Chain Reaction	Overhead algebra tiles Red and yellow algebra tiles for students (8 of each tile for each student pair) Colored pencils (optional)	term, like terms, prime factorization, factor, constants, variable, expressions, zero pair, equivalent expressions	
17	Writing Equivalent Expressions for Real World Applications	Teacher pages T391 – T412 Student pages S199 – S211 Activity pages T968 – T969 Scavenger Hunt		distributive property	
18	One-Step Equations with Integers	Teacher pages T413 – T450 Student pages S212 – S230 Activity page T970 Mystery Square	Overhead unit tiles (red and yellow) Red and yellow unit tiles for students Cups	variable, equation, balance, zero pair, additive identity property	
19	Two-Step Equations with Integers	Teacher pages T451 – T482 Student pages S231 – S245 Activity page T971 Scavenger Hunt	Overhead unit tiles (red and yellow) Red and yellow unit tiles for students Cups	variable, equation, balance	
20	One and Two Step Inequalities	Teacher pages T483 – T519 Student pages S246 – S263 Activity page T972 Mystery Square		inequality, inverse operation(s), isolate the variable, less than, greater than, less than or equal to, greater than or equal to, inequality symbols (<, >, ≤, ≥), solution, number line	

Table of Contents

Lessons

Geometry					
21	All About Angles	Teacher pages T520 – T547 Student pages S264 – S278 Activity pages T981 – T984 Scavenger Hunt	Protractor (1 per student) Ruler Colored pencils (3 different colors)	supplementary, complementary, vertical, adjacent, triangle	
22	Scale Drawings	Teacher pages T548 – T575 Student pages S279 – S294 Activity pages T973 – T976 Scavenger Hunt	Map of your town, city, or state Measuring device (meter stick, yard stick, measuring tape) – 1 per student pair	scale drawing, dimensions, scale factor, scale, perimeter, area	
23	Drawing and Constructing Triangles	Teacher pages T576 – T606 Student pages S295 – S311	Ruler Protractor Copy Master of Graph Paper on T590 Scissors String Glue	construction, horizontal, protractor	
24	Plane Sections of 3-D Figures	Teacher pages T607 – T641 Student pages S312 – S324 Activity pages T977 – T978 Chain Reaction	Copies of Figure A (T620): 1 per student Copies of Figures B–G (T621-T626): 1 per pair of students Scissors Tape Heavy paper Extra paper	two-dimensional, three-dimensional, plane section, right rectangular prism, rectangular pyramid, parallel, perpendicular, lateral, base, parallelogram, rectangle, trapezoid	
25	Circumference of a Circle	Teacher pages T642 – T665 Student pages S325 – S337 Activity page T979 Chain Reaction	String (about 1 meter per student pair) Copy of circle on T651 Ruler Colored paper (1 piece per student for foldable) Colored pencils Scissors Calculators (optional)	circumference, diameter, radius, pi	Geometry Foldable

Table of Contents

Lessons

26	Area of a Circle	Teacher pages T666 – T688 Student pages S338 – S350 Activity page T980 Scavenger Hunt	Scissors Copy Master T674 (one per student pair) Foldable from Lesson 25 Colored pencils Ruler Glue stick or glue	diameter, radius, circle, parallelogram, area, pi	
27	Real World Application Involving Area, Volume and Surface Area	Teacher pages T689 – T720 Student pages S351 – S364 Activity pages T985 – T988 Chain Reaction	Geometry foldable from Lesson 25	area, volume, surface area, triangle, quadrilateral, rectangalar prisms	
Statistics and Probability					
28	Populations and Random Sampling	Teacher pages T721 – T741 Student pages S365 – S375 Activity pages T989 – T992 Scavenger Hunt	Calculators (optional)	survey, population, random, random sample, sample, valid sample, validity, inference, infer	
29	Measures of Center and Variability with Dot Plots	Teacher pages T742 – T768 Student pages S376 - S391 Activity pages T993 –T996 Chain Reaction	Calculators Sticky notes (1 per student pair)	mean, measure of center, measure of variability, deviation from the mean, absolute value, absolute deviation, MAD (mean absolute deviation), dot plot	
30	Measures of Center and Variability with Box Plots	Teacher pages T769 – T793 Student pages S392 – S405 Activity pages T997 – T1000 Scavenger Hunt	Calculators - optional	box plot, Quartile 1, Quartile 3, interquartile range (IQR), median, maximum, minimum, measure of center, measure of variability, scale, spread	
31	Comparison of Measures of Center and Variability	Teacher pages T794 – T820 Student pages S406 – S419 Activity pages T1001 – T1004 Scavenger Hunt	Calculators	box plot, median, IQR (interquartile range), Quartile 1, Quartile 3, maximum, minimum, measure of center, measure of variability, dot plot, mean, MAD (mean absolute deviation), deviation from the mean	

Table of Contents

Lessons

32	Introduction to Probability	Teacher pages T821 – T849 Student pages S420 – S433 Activity page T1005 Scavenger Hunt	Fair number cubes (1 per student pair) Colored pencils	sample space, probability, favorable outcome, possible outcome, impossible, unlikely, equally likely, likely, certain	
33	Relative Frequency	Teacher pages T850 – T869 Student pages S434 – S443 Activity pages T1006 – T1007 Chain Reaction	Fair number cubes (1 per student pair) Playing cards (1 deck per student pair) Centimeter cubes (6 red, 4 blue per student pair)	probability, relative frequency, trials, frequency	Probability Foldable
34	Uniform and Non-Uniform Probability Models	Teacher pages T870 – T893 Student pages S444 – S455 Activity pages T1008 – T1011 Chain Reaction	Fair number cubes (1 per student pair) Colored pencils Centimeter cubes (2 red, 2 blue, 3 green, 4 yellow per student pair)	probability model, uniform probability model, non-uniform probability model	
35	Compound Probability	Teacher pages T894 – T923 Student pages S456 – S472 Activity page T1012 Chain Reaction	Centimeter cubes Cups Fair number cubes (1 per student pair)	sample space, tree diagram, frequency table, list, simulation, compound probability	

The Key Elements to Mathematics Success Description of Teacher's Guide

Essential Questions are presented at the beginning of each lesson to provide the framework for the lesson and guide the learning process. The Essential Questions are used not only at the beginning of the lesson, but are also an important part of the lesson closure. Each Essential Question ties into a SOLVE problem which is used as an introduction and closure tool in each lesson.

Each lesson concept is bracketed with the SOLVE problem solving method. Along with the Essential Question, the "S" step of SOLVE is introduced at the beginning of the lesson. This helps to guide the learning of the student as they progress through the lesson. At the end of the lesson, the SOLVE problem introduced at the beginning of the lesson is revisited. The student completes the additional steps of SOLVE, applying the lesson concept in a problem solving situation.

LESSON 11: Add Integers

[Objective]
The student will explore addition with integers and apply this understanding to solve problems in mathematical and real-world situations.

[Prerequisite Skills]
addition and subtraction of whole numbers, number line

[Materials]
Student pages **S111–S124**
Red and yellow unit tiles for students (5 of each color)
Paper for foldable (1 per student)
Overhead unit tiles

[Essential Questions]
1. Explain how to add integers that have the same signs.
2. Explain how to add integers that have different signs.
3. Describe real-life situations where you would need to use negative integers.

[Words For Word Wall]
zero pairs, push together, yellow tiles - positive, red tiles - negative, additive inverse property, commutative property, sum, addition

[Grouping]
Cooperative Pairs (CP), Whole Group (WG), Individual (I)

[Levels of Teacher Support]
Modeling (M), Guided Practice (GP), Independent Practice (IP)

[Multiple Representations]
SOLVE, Verbal Description, Pictorial Representation, Concrete Representation, Graphic Organizer

[Warm-Up] (IP, I, WG) S111 (Answers on T232.)
- Have students turn to S111 in their books to begin the Warm-Up. Students will practice their basic addition and subtraction skills to prepare for adding integers. Monitor students to see if any of them need help during the Warm-Up. Give students time to complete the problems and then review the answers as a class. **{Verbal Description}**

[Homework]
Take time to go over the homework from the previous night.

[Lesson] [1 – 2 Days (1 day = 80 minutes) – M, GP, WG, CP, IP]

LESSON 11: Add Integers

SOLVE Problem **(GP, WG) S112 (Answers on T233.)**

Have students turn to S112 in their books. The first problem is a SOLVE problem. You are only going to complete the S step with students at this point. Tell students that during the lesson they will learn how to determine the rules for adding integers. They will use this knowledge to complete this SOLVE problem at the end of the lesson. **{SOLVE, Graphic Organizer, Verbal Description}**

Add Integers – Adding Opposites **(WG, M, GP, CP) S112 (Answers on T233.)**

WG, M, GP, CP: Students will use algebra tiles and number lines to explore integers and adding opposites to build a foundation for adding integers. Pass out red and yellow unit tiles to student pairs. Assign the roles of Partner A and Partner B to students. **{Concrete Representation, Verbal Description, Pictorial Representation}**

MODELING

Add Integers – Adding Opposites

Step 1: Review values of unit tiles with students. Have students identify the values of **yellow tiles** as **positive** and **red tiles** as **negative**. Ask students how to represent 4 with yellow tiles. Have students represent 2 with yellow tiles.

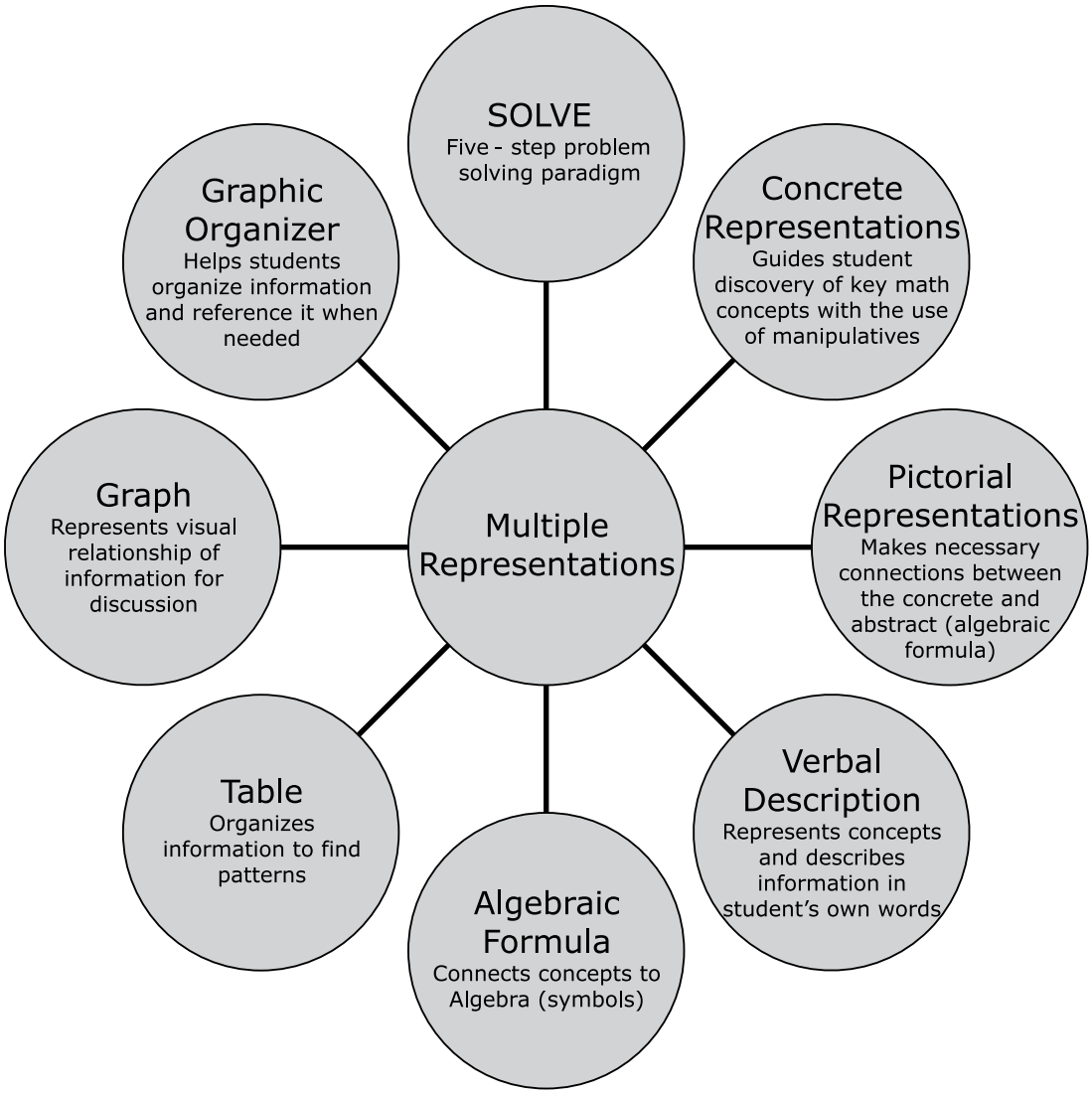
Have students represent ¯3 and then ¯5 with red unit tiles.

Step 2: Have student pairs read the word problem about Daniel and discuss what the $4.00 values represent in the problem.
- Partner A, explain the meaning of the word earn. (Earn will be a positive value because it is money you get by doing something.)
- Partner B, explain the meaning of the word owes. (Owes will be a negative value because it is money that you will have to pay someone.)

Each lesson begins with a warm up activity which connects previously learned skills and concepts to the current topic. The warm-up sets the stage for new concepts being introduced in each lesson.

Multiple representations of the concept are incorporated in each lesson. These representations include concrete, pictorial, algebraic formula, verbal descriptions, graphs, graphic organizers, tables and SOLVE – a problem solving paradigm. The multiple representations provide students with different learning styles and abilities the opportunity to acquire and apply knowledge of the lessson concept.

Each lesson contains "modeling boxes" which contain step by step instructions on how to model each concept. Modeling steps are provided for concrete, pictorial and procedural steps of the lesson.


SOLVE
Five - step problem solving paradigm
Graphic Organizer
Helps students organize information and reference it when needed
Concrete Representations
Guides student discovery of key math concepts with the use of manipulatives
Graph
Represents visual relationship of information for discussion
Multiple Representations
Pictorial Representations
Makes necessary connections between the concrete and abstract (algebraic formula)
Table
Organizes information to find patterns
Algebraic Formula
Connects concepts to Algebra (symbols)
Verbal Description
Represents concepts and describes information in student's own words

SOLVE

SOLVE is a 5-step problem-solving paradigm taught in the first three lessons of *The Key Elements to Mathematics Success* and throughout the program. SOLVE is an acronym which gives students step-by-step strategies for finding the solutions to word problems. The ultimate goal of teaching SOLVE is to provide students with a problem-solving strategy that can be applied to any concept they will encounter in mathematics. The steps are as follows:

Study the Problem
Underline the question.
This problem is asking me to find _____.

Organize the Facts
Identify the facts.
Eliminate the unnecessary facts.
List the necessary facts.

Line up a Plan
Write in words what your plan of action will be.
Choose an operation or operations.

Verify Your Plan with Action
Estimate your answer.
Carry out your plan.

Examine Your Results
Does your answer make sense? (Compare your answer to the question.)
Is your answer reasonable? (Compare your answer to the estimate.)
Is your answer accurate? (Check your work.)
Write your answer in a complete sentence.

Cooperative Pairs

Working in cooperative pairs is a vital part of *The Key Elements to Mathematics Success*. Cooperative learning allows students at various performance levels to work together, using a variety of learning activities, to improve their understanding. Communication about the learning process is an essential element of working in cooperative pairs. This dialogue enhances student learning and creates a sense of responsibility on the part of the students. Cooperative learning can be a catalyst in creating an atmosphere of achievement and a sense of accomplishment on the part of the students when the task is successfully completed.

Levels of Teacher Support

The lessons are carefully designed with opportunities for modeling, guided practice, and independent practice.

Modeling:
Each lesson contains "modeling boxes" which list step by step instructions on how to model each concept. Modeling steps are provided for concrete, pictorial, and procedural steps of the lesson.

Guided Practice:
Detailed instructions about how to structure guided practice are given in each lesson. Guided practice is led and closely monitored by the teacher. Students may work individually or in pairs during the guided practice.

Independent Practice:
Independent practice is provided through practice problems and homework in each lesson. Independent practice is structured to take place in the lesson following modeling and guided practice sections. Teachers can use the independent practice as a tool for informal formative assessment.

Word Problem Closure

At the end of the lesson, the SOLVE problem introduced at the beginning of the lesson is revisited. The student completes the additional steps of SOLVE, applying the lesson concept in a problem-solving situation.

Closure

Closure is a crucial part of every lesson and provides the teacher an opportunity to evaluate if the lesson objectives have been met. Teachers use the essential questions to reinforce the concept from the lesson, help organize the learning, and bring the lesson to its conclusion. A brief discussion of the essential questions will allow the teacher to informally assess student understanding of the material.

Homework

Homework is provided at the end of each lesson to give students ample opportunity to practice the lesson concept.

Quizzes

The lesson quizzes consist of 10 multiple-choice questions. These 10 questions cover the material taught in the lesson. The quizzes can also be used as homework, class work, review for a test, or as warm-ups.

Review Activities

Review activities are provided for many lessons. There are a variety of engaging activities including scavenger hunts and chain reactions. The activities are designed to provide multiple practice opportunities for the students in puzzle and game formats. The review activities incorporate the essential elements of cooperative learning and communication about the concepts.

The Key Elements to Mathematics Success – English Language Learner (ELL)

- **SOLVE** – A step-by-step procedure to attack word problems, dissecting the English language by identifying key words needed to solve the problem, and mapping out a plan with pictures and phrases to ultimately arrive at a well thought out answer. Steps can be written in students' native language while they are still becoming familiar with the process of SOLVE and gradually transitioning to English only. The steps of SOLVE have been modified slightly for use with ELL students. The modified steps provide additional support and involve verbal communication about the process, which is a vital link for the ELL student.

  S - Underline the question. TPIAMTF (this problem is asking me to find) – **THE** _____ . The students cannot just restate the question if they are made to start a sentence with *the*.

  O - Circle the necessary facts. When writing out the necessary facts, be as brief as possible and teach the students abbreviations right away ($, #, lb, cm, pkg. etc.).

  L - Choose an operation and discuss a plan out loud. – +, •, ÷

  number of nuts + number of bolts = total

  total • number of boxes = answer

  V - Estimate the answer out loud. Then use the set-up created in the L step to carry out the plan.

  E - Choose your answer.

- **Cooperative Pairs** – Working, questioning, and communicating with others regarding mathematics at all stages of learning. Activities are completed in an interactive setting, encouraging language and mathematical development. This includes the pairing of ELL students who speak the same language(s) with others who may be at varying stages of their English language development.
- **Modeling with Manipulatives** – Students participate in activities leading to the discovery of on-grade-level mathematical concepts. Through this process, they develop mathematical understanding while exploring ways of expressing their discoveries in English. Manipulative use is consistent throughout the program. The appearance of each manipulative, its meaning, as well as the language used to describe the actions of these manipulatives remain the same throughout.
- **Word Walls** – Updated through the use of KEMS lessons, new math vocabulary words (and their meaning/pictorial representation) are added for every new concept as it is discovered. The Word Wall is an interactive tool for all learners and provides an additional language resource for ELL students. Additionally an Operation Word Wall is created by each class and used for solving word problems throughout the year. As an added resource, words can be written in both English and the native language of the learner. Pictures/descriptions are also encouraged next to words wherever appropriate.
- **Video Clips of Each Lesson** – Available for use in class at www.KEMSmath.com, the video clips can help overcome the significant classroom language barriers ELL students face. These video clips, though in English, show key vocabulary words as a way of familiarizing students with appropriate vocabulary used to build a concept.

SOLVE Rubric

Solve	Considerations
S Underline the question(s). (1 pt) Answered the question "What is the problem asking me to find?" (2 pt) Total of 3 points	
O All math facts are identified. (2 pts) Unnecessary facts are eliminated. (2 pts) Necessary facts are listed. (1 pt) Total of 5 points	All facts get 2 points. Majority of facts get 1 point.
L No numbers used. (1 pt) Written as a phrase or sentence. (2 pts) Explained in a logical, sequential order. (2 pts) Use of correct operation(s). (2 pts) Total of 7 points	Logical, sequential order would include correct order of operations.
V Make estimation. (2 pts) Number sentence matches plan from L. (2 pts) Computation is correct. (2 pts) Total of 6 points	
E Sentence matches S. (1 pt) Estimate was reasonable for the answer. (1 pt) Answer is correct. (1 pt) Written in a complete sentence. (1 pt) Total of 4 points	Credit is given for writing the answer in a complete sentence, even if it is not the correct answer.

PROBLEM - SOLVING STORY FRAME

Characters _____

_____

Setting _____

Action

Fact # 1 _____

Fact # 2 _____

Other Facts _____

_____

Outcome (Main Question)

_____

_____

The Problem:

_____

_____

_____

_____

_____

_____

_____

_____

Problem Writing Rubric

		Points
Characters	1 point: Has a character 2 points: Has characters and uses them in problem	_____
Scene	1 point: Has a general scene 2 points: Has a scene in which the action takes place	_____
Action (Facts)	1 point: Has basic needed facts (min 2) 2 points: Includes more than 2 facts 3 points: Also includes unnecessary facts	_____
Outcome (Question)	1 point: Has very simple question 2 points: Has more complex 1 step question 3 points: Has a multi-step question	_____
	Total (max 10)	_____

Problem Writing Rubric

		Points
Characters	1 point: Has a character 2 points: Has characters and uses them in problem	_____
Scene	1 point: Has a general scene 2 points: Has a scene in which the action takes place	_____
Action (Facts)	1 point: Has basic needed facts (min 2) 2 points: Includes more than 2 facts 3 points: Also includes unnecessary facts	_____
Outcome (Question)	1 point: Has very simple question 2 points: Has more complex 1 step question 3 points: Has a multi-step question	_____
	Total (max 10)	_____

Planning for your Key Elements to Mathematics Success Class

Materials Needed: materials needed for both the teacher and the students including items from the manipulative kit, activities to prepare for pairs on cardstock, and/or pages to copy for class
Objective: (from teacher lesson notes)
Essential Questions: (from teacher lesson notes)
Word Wall Words: (from teacher lesson notes)
Agenda: Consider the following when planning each component of the lesson.

Activity	Time Frame	Notes/Details
Environment	N/A	• Groupings used today - seating arrangements needed? • Word Wall updates for this lesson? • Agenda, Objective & Essential Questions posted? • Needed technology set up?
Warm-up	_____ minutes	• What are some great questions to ask during the warm-up? • How does this warm–up relate to the lesson?

Lesson	_____ minutes	• What is the goal for today's lesson?
		• What materials are needed?
		• Is there an activity from the activities section of my TE that I will use to support this lesson?
		• How does the flow of this lesson encourage student discovery of the concept being covered? What questions need to be asked to guide the discovery of today's concept?
		• How does this lesson fit in with my district pacing guide?
		• How will this concept be enhanced with the traditional textbook?
		• How will I instruct partners to work?
		• Pages being covered today…
		• Complete SOLVE Problem
		ASK: What is the question asking me to find? (beginning of class)
		What are my facts?
		What is my plan? What operation is needed?
		Estimate an answer.
		Work out the answer.
		Check over work, choose answer.
		• What graphic organizer/foldable will be made/referenced?
		• <u>If time permits…</u>
		  • Will this section be used today?
		  • If so, how?
		• How will I use the quiz for this lesson?

Closure	_____ minutes	• Essential Questions • Homework assigned

Notes:

Planning for your Key Elements to Mathematics Success Class

Materials Needed:

Objective:
Essential Questions:
Word Wall Words:
Agenda:

Activity	Time Frame	Notes/Details
Environment	N/A	
Warm-up	_____ minutes	
Lesson	_____ minutes	
Closure	_____ minutes	

Notes: